Executive Summary

Proposed Vehicle Standards

Today's notice proposes new federal emission standards ("Tier 2 standards") for passenger cars and light trucks. The program is designed to reduce vehicle emissions of nitrogen oxides (NOx) and non-methane organic gases (NMOG) (which consist primarily of hydrocarbons (HC) and volatile organic compounds (VOCs)); NOx and NMOG contribute to the formation of ozone and particulate matter (PM) which are harmful air pollutants. The program would also, for the first time, apply the same federal standards to passenger cars and all light trucks ("light LDTs" and "heavy LDTs").

The proposed Tier 2 standards would reduce new vehicle NOx levels to an average of 0.07 grams per mile (g/mi). For new passenger cars and light LDTs, these standards would phase in beginning in 2004, with the standards to be fully phased in by 2007. For heavy LDTs, the proposed Tier 2 standards would be phased in beginning in 2008, with full compliance in 2009. During the phase-in period from 2004-2007, all passenger cars and light LDTs not certified to Tier 2 standards would have to meet an interim average standard of 0.30 g/mi NOx, equivalent to the current NLEV standards for LDVs. During the period 2004-2008, heavy LDTs not certified to Tier 2 standards would phase in an average standard of 0.20 g/mi NOx, with an emissions cap of 0.60 g/mi NOx

Manufacturers would be allowed to comply with the very stringent proposed new standards in a flexible way, assuring that the average emissions of a company's production met the target emission levels while allowing the manufacturer to choose from several more- and less-stringent emission categories for certification. The proposed requirements also include more stringent PM standards, which primarily affect diesel vehicles, and more stringent hydrocarbon controls (exhaust NMOG and evaporative emissions standards).

Proposed Gasoline Sulfur Requirements

The other major part of today's proposal would significantly reduce average gasoline sulfur levels nationwide beginning in 2004, and likely earlier due to the proposed incentive program to encourage early sulfur reductions. Refiners would generally install advanced refining equipment to remove sulfur in their refining processes. Importers of gasoline would be required to import and market only gasoline meeting the proposed sulfur limits. Temporary, less stringent standards would apply to certain small refiners.

EPA is proposing that gasoline produced by refiners and sold by gasoline importers generally meet an average sulfur standard of 30 ppm and a cap of 80 ppm. The proposed program builds upon the existing regulations covering gasoline content as it relates to emissions

performance. It includes provisions for trading of sulfur credits, increasing the flexibility available to refiners for complying with the new requirements. The proposed credit program is intended to ease compliance uncertainties by providing refiners the flexibility to phase in early controls in 2000-03 and use credits generated in these years to delay some control to 2006. As proposed, the program would achieve expected environmental benefits while providing substantial flexibility to refiners. The effect of the credit program is that those refiners that participate would have the opportunity for more overall lead-time to attain the final sulfur levels.

Cost-Effectiveness of the Proposed Tier2/Sulfur Program

A comparison of the costs of our proposed program with the emission reductions it is estimated to achieve leads us to conclude that it is a cost-effective means of reducing pollution. The cost-effectiveness of the Tier 2/gasoline sulfur proposal, considering only the NOx and hydrocarbon reductions which it will yield, ranges from $1,800 to $2,180 per ton. This range compares favorably with other mobile and stationary source controls. For example, both the Tier 1 and NLEV vehicle standards had similar cost-effectiveness to the standards we are proposing today. For stationary sources, similar levels of reductions in NOx and hydrocarbon emissions could cost up to $10,000 per ton. We believe that the program we are proposing today will be an efficient and significant step towards reaching attainment and maintenance of the NAAQS.

Highlights of the Benefit-Cost Analysis

We also made an assessment of the monetary value of the health and general welfare benefits that would result from our proposed standards. This assessment made use of many of the same data sets, models, and assumptions already used in previous EPA rulemakings. As a result, our benefits assessment included methods which have already received review by the public, other Federal agencies, and/or the independent Science Advisory Board.

In our benefits assessment, we estimated that our proposed standards would, in the long term, result in the yearly avoidance approximately 800 to 2400 premature deaths, approximately 4700 to 8000 cases of bronchitis, and significant numbers of hospital visits, lost work days, and an assortment of respiratory ailments. Our proposed standards will also produce welfare benefits relating to agricultural crop damage, visibility, and nitrogen deposition in rivers and lakes. The results indicate that, based on the particular assumptions, models, and data used in this preliminary benefit-cost analysis, the range of monetary benefits realized after full turnover of the fleet to Tier 2 vehicles would be approximately 3.3 billion to 19.5 billion dollars per year. Comparing this estimate of the economic benefits with the adjusted cost estimate indicates that the net economic benefit of the proposed standards to society could be from a net cost of 0.2 billion to a net benefit of 16.0 billion dollars per year. Our benefit-cost analysis should be considered preliminary due to limitations in the data and models available for analysis in advance of today's proposal. Additional, more refined analysis will be conducted prior to issuance of final standards.